

COBOL like you've never seen it



IBM COBOL VisualSet for OS/2*

Highlights

- **Rapidly create graphical user interfaces (GUIs) using IBM's advanced visual builder**
- **Streamline COBOL application development using an integrated suite of visual programming tools**
- **Use object-oriented (OO) programming methods to improve your development efficiency and promote code reuse**
- **Develop truly portable COBOL applications and deploy them in client/server environments**

Combining object-oriented technology with a comprehensive set of visual programming tools, IBM COBOL VisualSet for OS/2 brings advanced IBM technology for rapid application development to the desktop. This leading-edge development system is ideal for expanding your COBOL programming and information-sharing capabilities in client/server environments.

The quick way to build GUIs

Visual development tools have set the productivity standard for rapid application development, and IBM offers leading visual tools for several languages. The visual tools in IBM COBOL VisualSet for OS/2 furnish an easy way to give your end users the benefits of intuitive application GUIs. Use the visual builder's drag-and-

drop capability to select controls such as dialog boxes and buttons from a palette and quickly arrange them into the graphical interface you need.

Because the visual tools generate COBOL code, the visually created components integrate easily with COBOL program logic to form a complete application. With IBM COBOL VisualSet for OS/2, you don't need to learn a new programming language to create full-scale graphical applications.

Fast visual programming

In addition to the visual builder, IBM COBOL VisualSet for OS/2 includes a graphical COBOL debugger that pinpoints control of variables, expressions, registers, stacks, storage, multithreading,

The screenshot displays four overlapping windows from the IBM COBOL VisualSet for OS/2 environment:

- Easy to use GUI builder:** A window titled "COBOL VisualSet" showing a palette of graphical controls like buttons and text boxes on the left, and a central workspace for building the user interface.
- Graphical view of DB2 database:** A window titled "MRL0DEMO - Schema" showing a hierarchical database schema with tables like PRODUCT, ORDERS, CUSTOMER, EMPLOYEE, DEPARTMENT, and ROOM.
- Advanced editor:** A window titled "LPX - A:\EMPLOYEE.CBL" showing COBOL source code. The code includes SQL statements for cursor declaration and data retrieval from the EMPLOYEE table.
- Employee table fields to be included in COBOL program:** A window titled "employee - Mapping" showing a table that maps database fields to COBOL variables. The table has three columns: Data item, Source expression, and SQL data type.

Data item	Source expression	SQL data type
HV-EMPID	EMPLOYEE.EMPID	SMALLINT
HV-FNAME	EMPLOYEE.FNAME	CHAR
HV-LNAME	EMPLOYEE.LNAME	CHAR
HV-DNAME	DEPARTMENT.DNAME	CHAR

and breakpoints. The debugger gives assorted views of assembly and listing files and allows Presentation Manager* program control and debugging.

A programmable COBOL editor offers capabilities such as syntax highlighting and language-element help. And an execution trace analyzer helps you understand and tune your programs by monitoring the programs and creating a graphical function-by-function trace. Further assistance is available from the online COBOL documentation and context-sensitive help. To help you integrate your programming projects and tools, IBM COBOL VisualSet for OS/2 includes WorkFrame/2, a tool that also supports IBM VisualAge C++* for OS/2 and IBM PL/I* for OS/2.

Object-oriented COBOL

The OO capabilities in IBM COBOL VisualSet for OS/2 enable you to create mission-critical object-oriented business applications. OO programming allows you to encapsulate data and functions into objects that you can use again and again, rather than developing new code.

The OO language extensions in IBM COBOL VisualSet for OS/2 are based on the emerging ISO and ANSI COBOL standards and are a natural syntax extension to COBOL -- not a new language. These are the same OO extensions you get with IBM COBOL Set for AIX* and IBM COBOL for MVS & VM. They actually change COBOL syntax very little, so you can take advantage of them with minimal training. Yet these extensions implement a complete OO paradigm that allows you to define object classes, instantiate objects, subclass objects, and have objects inherit characteristics from other objects.

IBM COBOL VisualSet for OS/2 creates language-neutral objects that interoperate with objects created in other OO languages, ensuring the utility of your objects for a long time to come. IBM provides language neutrality by implementing the Object Management Group's Common Object Request Broker Architecture (CORBA) standard in our System Object Model (SOM) technology. IBM COBOL VisualSet for OS/2 features "Direct-to-SOM" capability as do IBM COBOL Set for AIX and IBM COBOL for MVS & VM.

Better access to your data and transactions

Key to any client/server strategy is the ability to access data and transactions anywhere in your enterprise. IBM COBOL VisualSet for OS/2 supports local and remote access to DB2*, CICS*, and VSAM* and remote access to IMS*. Cross-platform data access and file transfer is straightforward because the industry-standard communications protocols are supported.

For help with data access, you can take advantage of data dialogs that provide visual assistance for mapping relational database fields to COBOL data structures. Similarly, transaction dialogs invoke CICS* ECI transactions using a graphical capability that reduces the knowledge required and helps you avoid many of the mistakes that can occur in coding complex interfaces.

Equally important to client/server success is a consistent language implementation on every platform. IBM provides that support with COBOL technology you can trust. With IBM COBOL VisualSet for OS/2, you can leverage your host applications and databases, whether your applications are fully ported to new environments or reengineered to create graphical client/server applications.

Working as an integrated team

Team-based technologies can help you keep your application development environment under control. To optimize your LAN environment and improve team productivity, you can utilize IBM's TeamConnection for OS/2 and DataAtlas for OS/2. Both are enabled to support IBM COBOL VisualSet for OS/2.

Use DataAtlas from one location to control and standardize data definitions for COBOL as well as PL/I, DB2, DR2/2*, IMS DB, Oracle** and Sybase**. Because DataAtlas allows you to generate and share a standard set of data descriptions, you get improved application consistency and maintainability. You can also create data models independently of your database implementation. Physical database design support helps you structure databases for optimal performance.

TeamConnection combines the best of library control and configuration management services. Use it for version control, configuration management, change management, and application building. TeamConnection increases your team's productivity by improving team communication and coordination; saving important assets (COBOL source code and objects, for example) and asset-related information; and providing automated tools for easy access to that information.

COBOL technology you know and trust

IBM COBOL VisualSet for OS/2 has been completely developed and tested by IBM. This COBOL package is part of IBM's consistent COBOL language support on OS/2, AIX*, MVS, VM, VSE, and AS/400* platforms. This consistent compiler technology eases your transition from the host to the desktop and permits you to leverage a heterogeneous topology for distributed client/server computing.



© International Business Machines Corporation 1995

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Printed in the U.S.A. 6/95
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GC26-8486-00